U.S. DEPARTMENT OF AGRICULTURE

MARKETING AND REGULATORY PROGRAMS

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

VETERINARY SERVICES

ARGENTINA SITE VISIT REPORT

DECEMBER 4, 2000

ARGENTINA SITE VISIT REPORT

TABLE OF CONTENTS

Executive Summary

Tripartite representatives from Canada, Mexico, and the United States visited Argentina from September 27 - October 6, 2000 for two purposes: to evaluate the impact of recent findings with the illegally imported cattle on the safety of de-boned beef exported to the United States and Canada; and to gather information for the evaluation of FMD freedom with no vaccination. During the visit, representatives:

- Reviewed the zoosanitary measures taken following the detection of FMD illegally imported cases.
- Reviewed detailed information on SENASA's organization and activities.
- Inspected SENASA facilities, including its central laboratory and regional facilities.
- Examined private facilities that produce FMD vaccine or inspect and export beef.
- Inspected border controls and customs facilities.
- Were briefed about additional regulatory actions that would strengthen SENASA's ability to maintain its free status, and to recognize, detect, and contain any introduction of an FMD outbreak.

With regard to Argentina's FMD status, it was the opinion of the tripartite delegation that SENASA acted promptly and effectively to prevent the spread of the disease in their country. Epidemiological and laboratory evidence showed that viral activity was very limited. In addition, the prompt zoosanitary measures that were adopted together with the existing mitigating measures (de-boning and maturation time to lower the pH) already in place, shows the risk of introducing FMD virus into the United States to be negligible.

The delegation further recommends recognition of Argentina as free of FMD without vaccination not be considered until full implementation and verification of the proposed additional safety measures have been instituted. The team will remain in close contact with Argentinean authorities to continue to monitor the animal health situation in Argentina and to ensure that Argentina implements the proposed additional safety measures.

Background

The last reported clinical case of FMD in Argentina occurred on April 24, 1994. Argentina suspended vaccination against FMD on April 30, 1999 and, according to international regulations, requested recognition for foot-and-mouth disease freedom without vaccination. A site visit team was formed and scheduled to visit Argentina in August 2000. However, in early August, FMD virus was detected in illegally introduced animals. Argentina imposed a voluntary ban on beef exports, in addition the USDA and CFIA issued a temporary hold on trade of de-boned beef with Argentina. The site visit was re-scheduled and a tripartite team from Mexico, Canada and the United States traveled to Argentina from September 27 to October 6, 2000. The objective of the team was to assess the emergency measures taken and gather information that would serve as the basis of a final decision on the recognition of FMD freedom without vaccination.

Chronology of events

- June 5, 2000: An argentine private veterinarian working in Paraguay notified of the occurrence of FMD in that country to veterinary authorities in Argentina. SENASA, the Argentine animal and plant health agency, intensified its surveillance activities along the border.
- August 1, 2000: Ten illegally introduced animals were detected in a communal farm close to the Paraguayan border (Clorinda, Province of Formosa). Under SENASA's regulations, any illegally introduced animals must be slaughtered. The ten smuggled animals were slaughtered on August 2, 2000. Ten serum samples and one probang sample were taken prior to slaughter.
- August 8, 2000: Four out of the ten illegal animals tested positive to VIAA and EITB tests. Additionally, one of the probang samples yielded an FMD virus type A24.
- Serum samples were taken on the immediate contacts and 8/82 samples were positive to VIAA and EITB. No probang samples were taken on these animals.
- Animals that were in immediate contact with the illegal animals and in neighboring farms were slaughtered and buried. No samples were taken.
- A standstill of animal movements from the affected area was declared.
- Thirteen animal movements with 391 bovines were traced from adjoining premises, from these investigations 3 additional infected animals were detected. Two of these in Mercedes, Province of Corrientes and one in Concepción del Uruguay, Province of Entre Ríos.
- All animals in these herds were slaughtered. The total number of slaughtered animals in the three affected premises was 3,563.
- None of the 15 reactors (4 illegal and 11 Argentinean) showed clinical signs.

Actions taken by SENASA

- Intensification of surveillance activities.
- National ban of livestock movement except for slaughter under controlled conditions.
- Inspection of all livestock operations along the border.
- Massive serological surveillance.
- Ban of shipments from affected areas and specific quarantine restrictions.
- Strengthening of border controls. Allocation of additional personnel to perform inspection and disinfection of vehicles at the borders.
- Unilateral suspension of beef exports.

Objectives of the visit

On the first day of the visit, September 27, 2000, the group was taken to SENASA's headquarters in Buenos Aires and was greeted by Dr. Victor Machinea, Vice-president of SENASA. We received information on SENASA's structure, organization, and budget; border controls; preventive measures; and epidemiological surveillance. This information was translated into English and is summarized here. The full report is included as Attachment 1, Epidemiological Report: Serological Findings in Argentina - September 2000.

The epidemiological report on the serological findings in Argentina for September 2000 details the animal health situation of the Argentinean provinces bordering Paraguay before, during, and after the most recent incidence of FMD there (see Attachment 1 for the complete report). The report begins with an extensive description of the geography, demography, and previous animal health status of the three border provinces affected by the most recent outbreak, Corrientes, Entre Rios, and Formosa. Every year, Argentina conducts a countrywide systematic serum sampling, to monitor the status of FMD. The report includes results of those samplings from recent years to demonstrate the absence of viral activity. Information on serum sampling of farm animals and of non-vaccinated wildlife for the first 6 months of 2000 are also included.

The report then shifts to a detailed discussion of the events that occurred on and after June 5, 2000, when a private veterinarian reported cases of FMD in Paraguay. Argentinean responses to the FMD detection in Paraguay included: issuance of an animal health warning to all provinces bordering Paraguay; intensified surveillance; a survey of farms in the border provinces; the allocation of additional staff for surveillance and control activities; intensification of border controls; a ban of shipments from ,and a quarantine of, the border surveillance area.

In spite of these activities, on August 2, 2000, 10 bovines were illegally imported from Paraguay into the border province of Formosa. Upon detection, a voluntary ban was placed on all shipments of animals. The illegally imported animals and all contact animals were quarantined. Serum samples were collected from all bovines. The animals were then subject to sanitary slaughter. However, no specific clinical signs were exhibited nor were vesicular lesions found during the initial inspections. The report catalogues the nature of the herds affected, their movements, the specific tests that were performed on the involved animals, and the results of those tests. Also described are the processes of virus isolation, diagnostic confirmation, and sanitary slaughter.

Finally, the report describes the actions taken as a result of the initial outbreak event. Responses to the event include: increased and continued surveillance activities; epidemiological follow-up; a massive serological survey; and targeted sampling. In addition, border control activities were also intensified, and are described in the report. The report concludes with a brief chronology of reports made to the OIE with regard to the FMD situation.

Day 2, September 28, 2000

In order to accomplish all of the reviews and to visit as many different locations as possible during the time allotted for the site visit, the delegation was divided for the remainder of the visit into two groups.

Group 1: Visit to SENASA's central laboratory and to Biogenesis, a private FMD vaccine production plant.
Dr. Rodriguez Toledo and his staff presented the role and capability of the SENASA virology laboratory with respect to FMD. He also presented the plan (in its final stages) to move the premises to be co-located with the Pan American Health Organization's center for food safety (INPPAZ). The laboratory is capable of performing virtually all OIE prescribed tests, FMD antigen diagnosis is performed in a BSL3 Agriculture containment area recently inaugurated (150m2; 1996?). A visit inside the BSL3 was denied. Water treatment is by heat treatment. Serological diagnosis is performed under BSL1 and BSL2 conditions using inactivated antigens obtained from Panaftosa, Brazil, or, in the case of VIA antigen, from Biogenesis (see below). Serum banks are currently kept in freezers along the hallways (first floor with at least two entrances at street level) without any security. Other laboratories in the country only facilitate in the shipment of samples where a vesicular disease is suspected – they are not involved in direct diagnosis. During the serological surveillance for FMD (1998) some laboratories did assist with running the VIAA test. This does not occur at this time.

The group received an overview of the laboratory's organizational structure and the working relationship between SENASA and INTA (National Institute of Agricultural Technology). These laboratories work closely together, with INTA providing more in-depth (molecular) analysis of FMD isolated at the SENASA laboratory (similar to APHIS and ARS laboratories in the United States). Funding for the two laboratories is separate, which may raise questions about response time.

In the event of an emergency, the Vaccine Bank has approximately 500,000 doses of trivalent FMD vaccine in storage, with an additional 4 million doses frozen in liquid nitrogen. If necessary, an additional 4 million doses could be produced and made available within 30 days and an additional 4 million doses each month thereafter.

We also reviewed current surveillance programs and diagnostic methods for FMD There are currently 45 official (SENASA approved) laboratories conducting serologic surveillance for FMD throughout Argentina.

Conclusions: The laboratories have the capability to perform classical procedures (virus isolation and serologic tests) as well as molecular studies on the viruses. At the time of the

walk-through, very little laboratory activity was observed. On a second walk-through of the same laboratory (October 5), more people were observed in offices, but there was still very little bench work being conducted.

Diagnostic procedures for FMD were appropriate, however the delegation would like to make two recommendations:

1) The use of primary cell cultures, e.g. bovine thyroid or kidney and lamb kidney rather than a continuous cell line, i.e. baby hamster kidney cell line (BHK-21) allows a more efficient system for FMD isolation from field specimens only after subsequent amplification upon further cell culture passages. The isolation of August 2000's FMDV required three passages in BHK-21 cell line, the only cell type used, before its identification by ELISA and CF tests. This process at FMD Laboratory, Martinez took approximately six days.

2) Preparation of nucleic acid from FMD virus isolate and subsequent molecular virology work and PCR should be performed in the same biocontainment level 3 diagnostic building. Currently, virus isolation procedures and subsequent PCR work for its typing are performed in two distant separate sites, Martinez and Moron. Consequently, the transport of reagents from INTA to a SENASA laboratory for the extraction and preparation of nucleic acid from a virus isolate and transportation of the C-DNA back to INTA laboratory, Moron site, takes at least 24 hours before starting PCR work which takes at least five days to complete.

It is to the benefit of the animal industry and trading partners if SENASA improves upon the aforementioned concerns and upgrades and enhances the FMD biocontainment laboratory facilities and capabilities for faster turnaround time of FMD diagnostic test results including typing of the isolates. This is of paramount importance in a country such as Argentina where vaccination against FMD is not practiced and speed in recognition of an index case of FMDV infection is vital to its control and eradication measures.

Biogenesis is the only facility in Argentina producing FMD vaccine. A security checkpoint allowed us into the campus. A cursory tour of the cell propagation and finishing area was made. The staff seemed extremely competent and knowledgeable with ISO9000 procedures in place. The virus production area (BSL3) was not visited but controlled by electronic means. No outlines of production or protocols were reviewed. This facility wants to import exotic (non-South American) FMD viruses for vaccine commercialization worldwide, as they do for the O/Taiwan/1997 virus. The company exports approximately 5 million doses of FMD vaccine to Taiwan annually (20 million doses since 1997). The company also exports to Bolivia and Ecuador. Some financial support is received from the Vaccine Bank. They currently have eight serotypes in their vaccine bank (O1/Campos/Br/58; O1/Caseros/Ar/67; C3/Indaial/Br/71; C3/Resende/Br/55; C3/Ar/85; A24/Cruzeiro/Br/55; A79/Ar/79; A81/Ar/87). Vaccine is stored at Biogenesis and at the INPPAZ/SENASA laboratory mentioned above (0.5M doses trivalent). Water treatment is by pH manipulation. Uruguay and Chile depend on this bank according to Dr. Rodriguez Toledo.

Group 2: Visit to a local SENASA office in Brandsen, 60 km from Buenos Aires.
The site of the office belongs to the Sociedad Rural, a producer's organization. The same building also holds the offices of SENASA, INTA, and the office of brands and property (a municipal office responsible for verifying ownership of cattle).

The regional and local SENASA veterinarians explained the structure and organization of SENASA at the local level. In particular, they focused on the animal movement control system. In order to ship animals for slaughter or to another farm, the owner requests a transit authorization, a *documento de tránsito autorizado* (DTA) which is issued by SENASA. A fee of US $0.90 is charged per animal. With this document, the shipper can request a transit guide issued by the municipality which verifies the legal ownership of the animals. Every producer is officially registered in the National Registry of Agricultural Producers (RENSPA) and receives a number and a card. This card must be presented to allow animal movements. Every year producers are required to make a sworn declaration on the number and type of cattle they own. The system is computerized and is consulted prior to issuing the DTA. Cattle inventories are updated with each movement. If a herd's movement is restricted, because of a failure to register with the official brucellosis program for example, the system cannot issue the DTA. Animal movements are checked on the road (random police checks) and at destination. During the month of July, 12 infractions out of 32,000 movements were detected in this region.

The national ban on animal movements from field to field was lifted on September 12 and animal movements were allowed. Thirty percent of all cattle being moved from field to field are serologically tested (VIAA). Swine are quarantined for 21 days at destination. However, it was unclear how this was enforced.

In the afternoon the group visited a dairy farm.

Day 3 September 29, 2000

Group 1: Flight to the Province of Formosa bordering Paraguay.
The group visited SENASA's local office in Clorinda, the locality where the infection was detected. Local officials made a presentation on the emergency measures taken. A total of 1,308 animals were slaughtered and buried. The group later visited the site where the animals were buried. No samples were taken from these animals.

Risk factors:

- The price of cattle in Paraguay is cheaper (0.40 to 0.50 per kg liveweight) than in Argentina (0.60 to 0.90). This creates an incentive to move animals into Argentina.
- There is a close relationship between producers and veterinarians from Clorinda and Paraguay. Private Argentinean veterinarians are commonly asked to work for Paraguayan producers. This was how the original FMD situation in Paraguay was suspected and reported. This practice could eventually result in transmission of FMD virus to herds in Argentina.
- Border crossing is also a risk factor. Passenger and vehicle inspection at the border has been intensified. Large amounts of fresh meat and meat products are seized every day.

An estimated 40 kg of risk products is seized daily. During the group's visit they saw fairly large quantities of fresh beef, fresh pork, and pork sausages among other products. No border control is 100% effective; at peak periods during the day or in high season not all vehicles or passengers may be inspected. Furthermore, the efficiency of inspection may not be 100%. Although SENASA has legislation regarding the feeding of scraps to pigs, it is admittedly hard to enforce.

A special contingent of 200 men from the Army (Gendarmeria) supports SENASA in the Province. SENASA has 7 offices with 7 official veterinarians. In addition, there are veterinarians working under contract. A total of 21 veterinarians are working in control activities in 12 control posts. These activities will be kept in place until Paraguay's FMD status is equivalent to Argentina's.

Group 2: Visit to Finexcor, an export slaughterhouse in the Province of Buenos Aires. Finexcor is a modern commercial beef processing plant located near the city of Buenos Aires. The plant is the largest exporter of Argentinean beef. It exports to the US, EU, Israel, Eastern Europe, Arabia, Africa, and South American countries. Their total production and exports to the US and Canada for the last 2 years is as follows:

Year	Total Production	Exports to USA	Exports to Canada
1999 (Jan. - Dec.)	27,962 Tons	4,170 Tons	3,153 Tons
2000 (Jan. -Aug.)	18,802 Tons	3,477 Tons	3,468 Tons

The plant has approximately 945 employees. It is capable of processing 1,000 to 1,500 heads of cattle per day in two shifts. The construction of a state-of-the-art facility for processing cooked beef for export was nearing completion. The visit focused on traceability of meat to the farm from the shipping containers. A detailed review of procedures was discussed with plant personnel and verified by a walk-through inspection of the plant.

When cattle arrive in trucks/lorries, their DTA, transit guide, and ownership certificate are checked. Lot numbers (tropas) are assigned, and animals are kept in corrals for ante-mortem inspections. Animals are kept for at least 24 hours and then slaughtered by lot. A number is assigned at shank at slaughter to each animal. Later, when the carcass is split in half, a card with a barcode is applied to each half. When the halves are further divided into quarters, these are assigned with another card with a barcode. In this way, a very nice traceability record of each carcass and cut of beef is maintained on the database of the slaughter house. For traceability records, SENASA headquarters sends the information obtained from the company to the SENASA chief veterinarian in the plant for verification, before sending it to the United States for release of on-hold fresh beef from Argentina.

The pH of each of the carcasses is measured by plant employees after chilling (maturation) of the carcasses for 36 hours. Even if only one half of an individual carcass shows a pH above 5.8, both halves of the carcass are rejected for export and are used for the domestic market. Some of the carcasses are randomly checked for pH verification. They keep a record of all pH rejections.

Their total number of carcasses rejected because of high pH from July 1999 to June 2000 was 4,266 out of 237,949 carcasses. SENASA employees do their own verification of pH.

The company laboratory was also visited.

Conclusions: The plant was clean, hygienic, and appeared to be well managed. It was possible to follow identification of animals by lot number throughout processing. Although pH meters are checked daily in the laboratory (records were verified), variations between pH meters used on the line to monitor carcass pH showed variations of as much as 0.49 pH units from a known pH standard.

Day 4, October 2, 2000
Group 1: Travel to the border with Bolivia, in the Province of Salta.
The group met with the local and regional SENASA coordinators as well as the regional coordinator for the Cuenca del Plata program – an international cooperative effort to control FMD led by PANAFTOSA, which includes Argentina, Uruguay, Paraguay, Brazil and Bolivia. This zone has a low animal density; the climate is arid in the low lands and subtropical in the highlands. Ninety-five percent of producers have 1-50 animals; most animals are sold for local consumption. The region is dependent on the other Provinces for meat.

As with other border areas, surveillance has been intensified and samples are being taken from all herds in a 20 km area along the border. According to local officials, the price of beef is higher in Bolivia, which does not create an incentive for smuggling animals or animal products into Argentina.

The regional coordinator of the Cuenca del Plata program provided a summary of the situation in Bolivia. The official veterinary service is very debilitated. Notifications have to be investigated by the regional coordinator himself, who lives in Salta (Argentina), several hundred kilometers away from the border.

In 1999, an FMD outbreak was confirmed in the locality of Villamontes in Bolivia, close to the Argentine border. Samples were taken along the border and some sera tested positive both to VIAA and EITB. In April 2000, a project to vaccinate the border area on the Bolivian side was presented. An agreement with Bolivia and producers was signed in September 2000. So far, SENASA has donated 250,000 vaccine doses out of a total of 500,000 doses projected. The concept is that the producer organizations charge for the vaccine to create a fund for the purchase of additional doses each year. However, there were no charges for the first 250,000 doses.

The visit included the border crossing. Traffic here consists mainly of pedestrians from Bolivia who have clothes to be sold in Argentina. In contrast to the border crossing in Formosa, very few animal products are seized.

Although there is potentially a risk of introduction as FMD is endemic in Bolivia, the local economic conditions and the characteristics of the area do not favor the movement of illegal

animals or products. The consequences of introduction would not be great, because of the low animal density and the low number of animal movements out of the zone.

Group 2: Visit to Ezeiza International Airport.
The group reviewed SENASA's responsibilities with regard to the control and disposal of animal/plant material coming into Argentina through international airports. Within SENASA, responsibilities are divided into various categories: plant control, animal control, animals dead on arrival, food garbage obtained from countries with and without epidemiological alert, luggage control, and dog surveillance (beagles). There are 38 SENASA agents working at the Ezeiza Airport; most work 12 hour shifts on scheduled days. The group observed operation of the scanners to detect organic materials in passenger luggage and reviewed data on customs forms for incoming passengers. SENASA uses a form on which passengers arriving on international flights indicate the food items they are bringing with them. However, this form was not given to the tripartite delegation when it arrived in Buenos Aires from New York. The group suggested that SENASA inquire as to whether or not arriving passengers have been on a farm while abroad. Importation of biological materials is controlled through the issuing of permits by SENASA. It seemed that SENASA did not have to issue many import permits for biological materials.
At the time of the group's visit to the international airport, much material of animal origin was confiscated. SENASA inspectors were slashing the products and spraying them with creosote (a carbolic acid compound) before dumping them in a trash can for disposal by a private company, CEAMSE. Passengers from whom material is confiscated are provided with a form letter stating the reason for confiscation of the product, if such a letter is requested. Occasionally, meat items are allowed into Argentina for special events, such as international food shows, without regard to the disease status of the exporting country. The only meat allowed through customs is de-boned pork and whole chicken meat. Argentina imported de-boned pork from the southern states of Brazil before the outbreak. Now SENASA has a new regulation prohibiting pork from Rio Grande De Sul (the Brazilian state reported to have an FMD outbreak). Communication between SENASA personnel at different airports is by e-mail and/or fax. International waste is not incinerated on site but is removed by CEAMSE and taken to a controlled landfill site (they said the material was not accessible to rodents, dogs, birds etc., but the group was not allowed to visit the site).

Conclusions: It was suggested that customs should have strict implementation on the form that inquires as to whether or not passengers had recently been on a farm and whether any animal or plant material was being brought into the country. There should also be a penalty for providing false information on the form. The disposal of confiscated material seemed to be a concern. It was suggested that SENASA put pressure on the airport management to fulfill their commitment to provide an on-site incinerator for disposal of international waste material.

Visit to Exolgan S.A., Container Terminal, Dock Sud, Buenos Aires.
Exolgan is a large container company located in Buenos Aires. It is involved in the loading and unloading of cargo from ships. The company handles all types of materials except explosives and radioactive materials. There are two SENASA veterinarians stationed at the terminal to oversee shipments of meat for export and import. SENASA officials authorize all exports by means of provisional certificates issued by the chief of SENASA at the slaughtering/processing

plant. From the port, these Provisional certificates are sent to SENASA's headquarters, where final or permanent certificates are issued for foreign meat inspection authorities. Import procedures are in place. Containers containing meat are opened (their seals is broken) at the terminal for inspection and resealed if their contents agree with their paperwork. The shipments are allowed to proceed to authorized slaughter/processing plants where further inspection is done and samples are taken for microbiological, chemical, or other analyses. After satisfactory inspection and results of analyses, the product is allowed to be distributed in the market.

Conclusions: There was little accomplished by this visit because the certificates documenting dates of export were not maintained at the terminal office (only a list of shipments were at the office). The official certificates were maintained at SENASA's headquarters. Therefore, the group could not verify the date of the last shipment of meat to the United States.

Day 5, October 3, 2000
Group 1: Flight to Corrientes Province and visit to the Argentine-Brazilean border (Paso de los Libres).
Paso de los Libres is small international airport which has 3-4 flights per month which carry 3-4 passengers. These are usually private flights for people who want to go for fishing in places like Goya and Esquina in the western part of the province (Corrientes). We were told no animal products enter this airport because of the special kind of passengers who arrive there.

Visit to the local office, Paso De Los Libres
The Province of Corrientes has 25 local offices. The main office is in Mercedes, which is also the capital of the Province. The province's animal population is:

Bovine	4 million
Sheep	1 million
Swine	250,000
Equine	250,000

There are 10-12 local markets for the auction of animals which may move from place to place depending upon the season. There are 33 SENASA veterinarians and 300 other accredited veterinarians.

The movement of animals was stopped on August 4. It was allowed again on September 19. Samples (n=2,500) were taken for serological testing. Thirty percent of all cattle coming into farms are tested, while 100% of cattle are tested in the surveillance zone areas. No animals are allowed to move outside the zones except for slaughter. All animals are tested when they are imported from other provinces. Veterinarians go the farms at random to check the disease situation and physical verification of the animals.

Conclusions: Veterinary control seemed to be good on the movement of animals and survey for animal heath status.

Visit to the border post at the Argentina - Brazilian Border
This post receives the commercial shipments from Brazil whether they are for import into Argentina or for transit. The documents are the same for both kinds of shipments. After checking the documents, a sample of goods is taken. Most of the animal products imported are de-boned pork and poultry. Previously, de-boned pork originating 25 km outside the zone of FMD outbreaks in Rio Grande De Sul was allowed, but now it is prohibited. Because of a trucker's strike that day, no movements of goods were witnessed, however.
At the passenger-crossing border, luggage is searched at random for any animal products. If any animal products are found, they are confiscated. If the cars are outside of the border town, the tires of the vehicles are sprayed with disinfectants.

Conclusion: Because of trucker's strike no movement of commercial good or their inspection was noticed. However from the records and discussion, control of the import of animal products appeared to be good.

Group 2: Visit to Liniers cattle market.
The group held a meeting with the market's president and vice-president. The group also saw a presentation on the computer system used at the market. The system is able to provide information on all cattle movements in and out of the market and allows cattle load to be traced back to its farm of origin. It also computes prices, and the types of cattle coming in, among other things. The group met SENASA's veterinarians controlling animal movements in and out of the market.

Visit to INTA Castelar and high security laboratory. This facility parallels ARS in its scope and mission. The group was received by past director, Dr. Bernardo Carrillo and the staff of the Institute of Virology and Pathobiology. It is at this laboratory where the philogenetic analysis of the A24 was made. Personnel at the laboratory is well trained. Some of them have done their doctoral and postdoctoral work in the United States (including Plum Island) and Europe (including Pirbright). The BSL3 laboratory is not operational and requires an influx of funds to insure long-term maintenance. Unlike the SENASA situation, this laboratory and its personnel seem more permanent and Argentina would benefit by having BSL3 capability with well-trained personnel. INTA also has one animal holding facility (4 large animal rooms not hermetically separated from each other) under BSL3 conditions located about 60 meters from the laboratory. Material would need to be safely transported to and from the laboratory.

Day 6, October 4, 2000
Group 1: Met with Dr. Eduardo Greco and the staff of the Epidemiology Department of SENASA.
Ample information was shared on the introduction of FMD, on-going surveillance activities, and plans for the future. The official hypothesis regarding the incident is that the Argentine-origin animals seroconverted due to infection with the virus. However, they did not show clinical signs, because of persisting antibodies due to repeated vaccinations during the regular vaccination cycles from previous years.

Conclusions: The office has 4 veterinarians, most with more than 25 years with SENASA. In general, they seemed satisfied with their training and all had received training in recognition of foreign animal diseases.

Day 7 October 5, 2000

Final meeting at SENASA headquarters.
SENASA proposed additional safeguards (described below) for discussion. The general feeling was that these were appropriate. SENASA will present a chronogram for implementation by the end of November.

Additional safeguards
After discussions with SENASA officials on strengthening surveillance activities and assurances of safety measures to be adopted, they proposed additional safeguards. These are summarized below.

At the national level, SENASA will:

- Survey of all Provinces. 6,000 herds and 75,000 samples.
- Create border surveillance zones in the borders with Paraguay, Brazil and, at the group's request, the border with Bolivia. No animal movements for export will be allowed from these zones.
- Individually identify all animals in these border surveillance zones.
- Create a computer system, maintain an accurate census of all herds in border areas, and track animal movements.
- Reduce and eventually eliminate current surveillance zones; additional serosurveillance and a sentinel program are planned.
- Introduce additional restrictions for cattle actions, fairs and expositions including official supervision of cleaning and disinfection procedures.

In the Province of Formosa, SENASA will:

- Individually identify all animals in risk areas (border surveillance zones).
- Permanently update animal census and serological surveys every six months.
- Depopulate susceptible animals in the zones called *tránsito vecinal fronterizo* – border urban areas in which free trade between inhabitants of border towns may be practiced.
- Strengthen the implementation of the resolution banning the feeding of swine with scraps.
- Appoint a SENASA veterinarian in each office issuing transit guides (DTA).

At the export slaughter plants, SENASA will:

- Individually identify all export animals to the US, Canada and Mexico with an ear tag.
- Check all tags against the transit guide previous to slaughter.

- Recover all ear tags after slaughter and keep them for a period of six months or longer if necessary. Any animal without tag or with a tag number not listed in the transit guide will not be slaughtered for export.

General Comments

It is the consensus of the team members that the importation of chilled (frozen or refrigerated) de-boned beef from Argentina to Canada, Mexico, and the United States will not pose any additional risk of the introduction of FMD. Recognition of Argentina as free of FMD without vaccination should be considered after the implementation and verification of the additional measures mentioned above. Additional information was requested but was not available when the delegation left.

Conclusions: Outbreak or No Outbreak?

According to information gathered, due to illegal importation of cattle an incursion of FMD was recognized in Argentina in August 2000. No evidence was presented to support a fully fledged FMD outbreak with clinical manifestation in cattle. Whether the findings of antibodies in some cattle is suggestive of seroconversion to FMD virus is questionable.

From the ten illegally introduced animals a virus was isolated; 8 out of 82 immediate contact animals tested positive to both the VIAA and EITB tests. These were adult animals that had received multiple FMD vaccinations during their lives. Four other animals originating from the same herd were traced and found in two localities. Three of these also tested positive. SENASA acted quickly and stamped out the original herd and the two other herds in which seropositive animals were found. The question remains as to whether or not this event was, in fact, an outbreak. However, the fact that this highly infectious disease has not affected susceptible non vaccinated exposed animals which act as sentinels, is an indication of very limited viral activity. The presence of virus, demonstrated by probang test results in one of the imported animals, was not enough to produce viral activity sufficient to cause an outbreak.

According to the official version provided by SENASA, the Argentinean animals seroconverted due to infection with the virus, but did not show clinical signs because of persisting antibodies. If this is true, it means that the 11 seropositive Argentine animals were infected and developed an antibody response to the virus. This is not the opinion of OIE which following an on-site visit, has concluded that Argentina is still free of FMD. Because the incident they had was not considered an outbreak, Argentina does not have to go through the three-month trade-withholding period.

The OIE Code provides the following definitions:

Case: An individual animal affected by an infectious or parasitic disease.

Outbreak: An occurrence of one of the diseases in List A or List B in an agricultural establishment, breeding establishment or premises, including all buildings and all adjoining premises, where animals are present.

Where it cannot be defined in this way, the outbreak shall be considered as occurring in the part of the territory in which, taking local conditions into account, it cannot be guaranteed that both susceptible and non-susceptible animals have had no direct contact with affected or suspected cases in that area. For example, in the case of certain parts of Africa, an outbreak means the occurrence of the disease within a sixteenth square degree; the occurrence is still referred to as an outbreak even though the disease may occur in several places within the same sixteenth square degree.

On October 6, 2000 the OIE published in its weekly Disease Information:

"As a result of information transmitted by Dr. Oscar Alejandro Bruni, Delegate of Argentina to the OIE, in recent weeks on the subject of foot and mouth disease (FMD) (see Disease Information, 13 [37], 163, dated 22 September 2000), the OIE sent a mission to Argentina to clarify the FMD situation in that country. The mission comprised three experts (one European, one North American and a representative of PANAFTOSA [Pan American Foot-and-Mouth Disease Center]). The work of the mission was organised in close collaboration with Prof. E.J. Gimeno, Coordinator of the OIE Regional Representation for the Americas.

Briefly, the conclusions of the mission, presented to the OIE Foot and Mouth Disease and Other Epizootics Commission on 28 September 2000, were that an isolated incursion of infected animals had occurred and that the appropriate control measures were taken by the Veterinary Administration of Argentina. The experts recommended that the decision taken by the OIE to recognize Argentina as an FMD free country should not be revoked. They also made recommendations on methods of improving FMD surveillance and border control in Argentina.

The Foot and Mouth Disease and Other Epizootics Commission adopted these recommendations and decided that Argentina should remain on the list, drawn up by the OIE, of FMD free countries where vaccination is not practised. The Commission has requested Argentina to continue to provide the OIE with epidemiological information relating to this incident."

The issue is unclear. The 11 Argentine seropositive animals did not show clinical signs and the tests used do not allow differentiating antibodies in response to vaccine or infection . No attempt was made to isolate a virus from these animals. Previous surveys in Argentina had yielded seropositive animals to both tests. In 1998, 24 EITB positive animals were found and were considered false positives as they were not confirmed by PCR technique. This differential diagnostic protocol was not followed in the recent incident. Given the current epidemiological situation, Argentine authorities acted correctly, as if there was an outbreak.